

IN THE CLAIMS:

The status and content of each claim follows.

1. (currently amended) A jettable solution comprising:
an oil;
an edible surfactant;
an aqueous solution; and
a pharmaceutically active ingredient solubilized into said oil;
in which said oil, said pharmaceutically active ingredient, said surfactant, and said aqueous solution form a microemulsion;
in which said jettable solution comprises a viscosity of less than approximately 5 centipoise and a surface tension approximately between 25 to 60 dynes per centimeter ~~such that said solution is configured to be dispensed by jetting through a jetting fluid dispenser.~~
2. (previously presented) The jettable solution of claim 1, wherein said pharmaceutically active ingredient comprises a water insoluble pharmaceutically active ingredient.
3. (currently amended) The jettable solution of claim 2, wherein said pharmaceutically active ingredient ~~comprises one~~ is selected from the group consisting of a water insoluble peptide, an antimicrobial, a proton pump inhibitor, a calcium channel blocker, a beta blocker, an anesthetic, a steroid, an antioxidant, a rennin inhibitor, an alkaloid, a cytostatica, an anti-coagulant, a lipid regulating agent, an anti-depressant, a neuroleptic, an immunosuppressant, an immunomodulator, an antibiotic, an anti-inflammatory agent, an anitneoplastic, a

paclitaxel, a taxol, a tyloxapol, a docetaxel, a lovastatin, an indometacine, a diclofenac, a naproxen, a dexibuprofen, a rofecoxib, a celecoxib, a celecoxib nitrendipine, a flurbiprofen, a diclofenac, a ketoprofen, a piroxicam, a tenoxicam, a vincristine, a vinblastine, an insulin, a calcitonin, an erythropoietin, a cephalosporin, a desmopressin, an etoposide, a leuprolide, or a cyclosporin including one of cyclosporin A, dihydrocyclosporin C, dihydrocyclosporin D, and cyclosporin D, and derivatives thereof.

4. (original) The jettable solution of claim 1, wherein said oil and said surfactant form a plurality of micelles in said aqueous solution.

5. (previously presented) The jettable solution of claim 1, wherein said oil comprises one of a castor oil, an oleic acid and an oleyl alcohol, a coconut oil, a mineral oil, a cottonseed oil, a squalene, a safflower oil, or a fatty ester.

6-8. (canceled)

9. (previously presented) The jettable solution of claim 1, wherein said aqueous solution and said surfactant form a plurality of micelles in said oil.

10. (previously presented) The jettable solution of claim 1, wherein said surfactant comprises one of a lecithin, a sphingolipid, a galacto lipid, an ethoxylated castor oil, a polyoxyl 40 hydrogenated castor oil, an ethoxylated fatty ester, a sucrose fatty ester, a sorbitol, a sorbitan, a polyoxyethylene derivative, an alkyl glucoside, an alkyl polyglucoside, an ethoxylated mono-hydroxy stearic acid, a bile salt, a polyoxyethylene-sorbitan monooleate,

a polyoxyethylene-sorbitan monopalmitate, a polyoxyethylene-sorbitan monolaurate, nicotinamide or a nicotinamide derivative, a polyoxyethylene sorbitan monostearate, cholic acid or bile salts, nicotinic acid and nicotinamide derivatives, acetylinic alcohols, polyhydroxylated alcohols, aromatic sulfonate salts including one of xylene sulfonates, naphthalene sulfonates, cymene sulfonate, or Ethylene Oxide-Propylene Oxide block polymers.

11. (original) The jettable solution of claim 1, wherein said surfactant comprises an ion-pair formation between an amino acid and a fatty acid.
12. (original) The jettable solution of claim 11, wherein:
said amino acid comprises one of an L- arginine or an L-lysine; and
said fatty acid comprises one of a stearic acid or an oleic acid.
13. (original) The jettable solution of claim 1, further comprising an edible solvent.
14. (previously presented) The jettable solution of claim 13, further comprising a salt.
15. (previously presented) The jettable solution of claim 1, further comprising one of a biocide, a viscosity modifier, a humectant, an antifoaming agent, a surface tension adjusting agent, a rheology adjusting agent, a pH adjusting agent, a drying agent, a color, an acrylic polymer, or a non-acrylic polymer.

16. (canceled)

17. (currently amended) The jettable solution of claim 1, wherein a pharmaceutical release rate of said solution is ~~varied~~ selectively adjusted by varying the type of said oil.

18. (previously presented) The jettable solution of claim 1, in which the edible surfactant comprises approximately 5% L-arginine by volume of the jettable solution and approximately 6% stearic acid by volume of the jettable solution; the oil comprises approximately 15% soy bean oil by volume of the jettable solution; and the remainder comprises said aqueous solution.

19. (withdrawn/currently amended) A method for forming a jettable pharmaceutical based microemulsion comprising:

preparing a microemulsion; and

dispensing a water insoluble pharmaceutical into said microemulsion;

in which said jettable pharmaceutical based microemulsion comprises a jettable solution comprising:

an oil;

an edible surfactant;

an aqueous solution; and

a pharmaceutically active ingredient solubilized into said oil;

in which said oil, said pharmaceutically active ingredient, said surfactant, and said aqueous solution form said microemulsion; and

in which said microemulsion comprises a viscosity of less than approximately 5 centipoise and a surface tension approximately between 25 to 60 dynes per centimeter ~~such that said solution is configured to be dispensed by jetting through a jetting fluid dispenser.~~

20. (withdrawn/previously presented) The method of claim 19, wherein said preparing a microemulsion comprises:

combining said oil, said edible surfactant, and said aqueous solution;

and

said combination resulting in a formation of a plurality of micelles emulsified in a solution.

21. (withdrawn) The method of claim 20, wherein said preparing a microemulsion further comprises agitating said combination.

22. (withdrawn) The method of claim 20, wherein said preparing a microemulsion further comprises adding thermal energy to said combination.

23. (withdrawn) The method of claim 20, wherein said oil comprises one of a castor oil, an oleic acid and an oleyl alcohol, a coconut oil, a mineral oil, a cottonseed oil, a squalene, a safflower oil, or a fatty ester.

24. (withdrawn/currently amended) The method of claim 19, wherein said pharmaceutically active ingredient ~~comprises one~~ is selected from the group consisting of a water insoluble peptides an antimicrobial, a proton pump inhibitor, a calcium channel

blocker, a beta blocker, an anesthetic, a steroid, an antioxidant, a rennin inhibitor, an alkaloid, a cytostatica, an anti-coagulant, a lipid regulating agent, an anti-depressant, a neuroleptic, an immunosuppressant, an immunomodulator, an antibiotic, an anti-inflammatory agent, an anitneoplastic, a paclitaxel, a taxol, a tyloxapol, a docetaxel, a lovastatin, an indometacine, a diclofenac, a naproxen, a dexibuprofen, a rofecoxib, a celecoxib, a celecoxib nitrendipine, a flurbiprofen, a diclofenac, a ketoprofen, a piroxicam, a tenoxicam, a vincristine, a vinblastine, an insulin, a calcitonin, an erythropoietin, a cephalosporin, a desmopressin, an etoposide, a leuprolide, or a cyclosporin including cyclosporin A, dihydrocyclosporin C, dihydrocyclosporin D, or cyclosporin D, and derivatives thereof.

25. (canceled)

26. (withdrawn/currently amended) The method of claim 20, wherein said edible surfactant comprises one of a lecithin, a sphingolipid, a galacto lipid, an ethoxylated castor oil, a polyoxyl 40 hydrogenated castor oil, an ethoxylated fatty ester, a sucrose fatty ester, a sorbitol, a sorbitan, a polyoxyethylene derivative, an alkyl glucoside, an alkyl polyglucoside, an ethoxylated mono-hydroxy stearic acid, a bile salt, a polyoxyethylene-sorbitan monooleate, a polyoxyethylene-sorbitan monopalmitate, a polyoxyethylene-sorbitan monolaurate, a polyoxyethylene sorbitan monostearate, cholic acid or bile salts, nicotinic acid and nicotinamide derivatives, acetylinic alcohols, polyhydroxylated alcohols, aromatic sulfonate salts ~~such as~~ including one of xylene sulfonates, naphthalene sulfonates, cymene sulfonate, or Ethylene Oxide-Propylene Oxide block polymers,.

27. (withdrawn) The method of claim 20, wherein said edible surfactant comprises an ion-pair formation between an amino acid and a fatty acid.

28. (withdrawn) The method of claim 27, wherein:
said amino acid comprises one of an L- arginine or an L-lysine; and
said fatty acid comprises one of a stearic acid or an oleic acid.

29. (withdrawn/currently amended) A method for forming a jettable pharmaceutical based microemulsion comprising:

dissolving a pharmaceutically active ingredient in a pharmaceutical solubilizing oil;
and

combining said dissolved pharmaceutically active ingredient in an oil with an aqueous solution and an edible surfactant;

in which said jettable pharmaceutical based microemulsion comprises a jettable solution comprising:

said oil, said oil;

said edible surfactant;

said aqueous solution; and

said pharmaceutically active ingredient solubilized into said oil;

in which said oil, said pharmaceutically active ingredient, said surfactant, and said aqueous solution form said microemulsion; and

in which said jettable solution comprises a viscosity of less than approximately 5 centipoise and a surface tension approximately between 25 to 60 dynes per centimeter ~~such that said solution is configured to be dispensed by jetting through a jetting fluid dispenser.~~

30. (withdrawn) The method of claim 29, wherein said dissolving further comprises mixing said pharmaceutical and said naturally occurring pharmaceutical solubilizing oil until a semi transparent or transparent liquid results.

31. (withdrawn) The method of claim 29, further comprising agitating said combination to facilitate a formation of said microemulsion.

32. (withdrawn) The method of claim 29, further comprising adding thermal energy to said combination to expedite a formation of said microemulsion.

33. (withdrawn/currently amended) A method for forming an oral medication comprising:

presenting an edible structure adjacent to an jetting fluid dispenser; and

selectively dispensing a jettable pharmaceutical based microemulsion from said jetting fluid dispenser onto said edible structure

in which said jettable pharmaceutical based microemulsion comprises a jettable solution comprising:

an oil;

an edible surfactant;

an aqueous solution; and

a pharmaceutically active ingredient solubilized into said oil;

in which said oil, said pharmaceutically active ingredient, said surfactant, and said aqueous solution form said microemulsion; and

in which said jettable solution comprises a viscosity of less than approximately 5 centipoise and a surface tension approximately between 25 to 60 dynes per centimeter such that said solution is configured to be dispensed by jetting through a jetting fluid dispenser.

34. (withdrawn) The method of claim 33, wherein said jetting fluid dispenser comprises one of a thermally actuated inkjet dispenser, a mechanically actuated inkjet dispenser, an electro-statically actuated inkjet dispenser, a magnetically actuated dispenser, a piezo-electrically actuated inkjet dispenser, or a continuous inkjet dispenser.

35. (withdrawn) The method of claim 33, wherein said selectively dispensing comprises dispensing a predetermined dosage of said jettable pharmaceutical based microemulsion.

36. (withdrawn) The method of claim 33, wherein said edible structure comprises one of a polymeric or paper organic film former.

37. (withdrawn/previously presented) The method of claim 33, wherein said a jettable pharmaceutical based microemulsion comprises:

said aqueous solution; and

an oil based micelle, said micelle including a pharmaceutically active ingredient payload.

38. (withdrawn) The method of claim 33, further comprising dividing said edible structure into a plurality of single oral doses.

39. (withdrawn/previously presented) The method of claim 33, further comprising selectively dispensing a plurality of a jettable pharmaceutical based microemulsions onto said edible structure, said plurality of aqueous pharmaceutically active ingredients forming a combination therapy.

40. (withdrawn/currently amended) A system for dispensing an oral medication comprising:

an edible structure; and

a jettable pharmaceutical based microemulsion configured to be dispensed onto said edible structure;

in which said jettable pharmaceutical based microemulsion comprises a jettable solution comprising:

an oil;

an edible surfactant;

an aqueous solution; and

a pharmaceutically active ingredient solubilized into said oil;

in which said oil, said pharmaceutically active ingredient, said surfactant, and said aqueous solution form said microemulsion; and

in which said jettable solution comprises a viscosity of less than approximately 5 centipoise and a surface tension approximately between 25 to 60 dynes per centimeter ~~such that said solution is configured to be dispensed by jetting through a jetting fluid dispenser.~~

41. (withdrawn) The system of claim 40, wherein said edible structure comprises one of a rice starch based paper, a potato starch based paper, or an edible polymer.

42. (withdrawn) The system of claim 40, further comprising:
a computing device disposed adjacent to said edible structure;
an inkjet material dispenser communicatively coupled to said computing device; and
a material reservoir fluidly coupled to said inkjet material dispenser, said material reservoir being configured to supply said a jettable pharmaceutical based microemulsion to said inkjet material dispenser.
43. (withdrawn) The system of claim 42, wherein said computing device comprises one of a personal computer, a laptop computer, a personal digital assistant, or a cellular telephone.
44. (withdrawn) The system of claim 42, wherein said inkjet material dispenser comprises one of a thermally actuated inkjet dispenser, a mechanically actuated inkjet dispenser, an electro-statically actuated inkjet dispenser, a magnetically actuated dispenser, a piezo-electrically actuated inkjet dispenser, or a continuous inkjet dispenser.
45. (currently amended) A jettable solution comprising:
a water insoluble pharmaceutically active ingredient; and
a means for forming an emulsion including said pharmaceutically active ingredient,
in which said means for forming an emulsion is configured to create said jettable solution with a viscosity of less than approximately 5 centipoise and a surface tension approximately between 25 to 60 dynes per centimeter ~~such that said jettable solution is configured to be dispensed by jetting through a jetting fluid dispenser.~~

46. (previously presented) The jettable solution of claim 45, wherein said jettable solution further comprises a means for stably dispersing said emulsion.

47. (withdrawn/currently amended) A system for dispensing an oral solution comprising:

an edible means for receiving a pharmaceutical payload solution; and

a jettable pharmaceutical based microemulsion configured to be dispensed onto said means for receiving a pharmaceutical payload solution;

in which said jettable pharmaceutical based microemulsion comprises a jettable solution comprising:

an oil;

an edible surfactant;

an aqueous solution; and

a pharmaceutically active ingredient solubilized into said oil;

in which said oil, said pharmaceutically active ingredient, said surfactant, and said aqueous solution form said microemulsion; and

in which said jettable solution comprises a viscosity of less than approximately 5 centipoise and a surface tension approximately between 25 to 60 dynes per centimeter ~~such that said solution is configured to be dispensed by jetting through a jetting fluid dispenser.~~

48. (withdrawn/previously presented) The system of claim 47, wherein said edible means for receiving a pharmaceutically active ingredient payload solution comprises one of a rice starch based paper, a potato starch based paper, or an edible polymer.

49. (withdrawn) The system of claim 47, further comprising:

a means for computing disposed adjacent to said edible structure;

a means for selectively dispensing said pharmaceutical payload solution

communicatively coupled to said means for computing; and

a material reservoir fluidly coupled to said means for selectively dispensing said pharmaceutical payload solution, said material reservoir being configured to supply said a jettable pharmaceutical based microemulsion to said inkjet material dispenser.